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ABSTRACT

This paper discusses the mission of the market-responsive community college. These colleges include mid- and high-level workforce training in their curriculum. Some of the characteristics of a market-responsive community college detailed here include: (1) allocating resources to develop training programs; (2) reaching out to businesses and other organizations; (3) responding rapidly to changes in local economic conditions and training needs; (4) recruiting faculty from among local experts in the field; and (5) partnering with other local educational institutions to deliver comprehensive training. Over 200 publications were reviewed for this report, and the 25 articles that contained the most relevant information, including descriptions of labor-market responsive behavior, were selected. The four methodologies used in preparing the articles that were selected were: (1) statistical analysis; (2) less formal data analysis; (3) literature reviews; and (4) anecdotal evidence. The conclusions of this review will be used as hypotheses to be thoroughly tested in the next phase of this initiative. A reading of the literature found that outsourced training expenditures for U.S. companies nearly doubled, from $9.9 billion to $19.3 billion annually, between 1994 and 2000. Includes brief outlines of specific community college programs and 25 annotated references to literature analyzed for the study. (NB)

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Documented Characteristics of Labor Market-Responsive Community Colleges and a Review of Supporting Literature

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Executive Summary

The mission of community colleges has evolved beyond their traditional roles of open access, vocational education and as an entrée into 4-year colleges, to include mid- and high-level workforce training. According to the literature, those colleges that embrace this new mission seek to meet rapidly changing local workforce development needs. The literature also notes that these market-responsive community colleges share many characteristics. These characteristics are interconnected and mutually supporting. Market-responsive community colleges:

- Have leadership committed to the market-responsive mission of the college. Elements include:
  - Allocating resources to develop training programs.
  - Reaching out to local businesses and other organizations.
  - Identifying market-responsiveness as part of the college's mission.

- Have internal response mechanisms that allow for rapid development of training curriculum to meet changing workforce demands, which include:
  - Responding rapidly to changes in local economic conditions and training needs.
  - Creating a division to address local employment demands.
  - Developing for-credit programs based on local workforce needs.

- Partner with local businesses and local workforce and educational organizations to develop appropriate training and academic curricula , which includes:
  - Collaborating with local businesses on curriculum development and seeking employer input on curriculum development.
  - Recruiting faculty from among local experts in field.
  - Partnering with other local educational institutions to deliver comprehensive training.

- Have close ties to their local communities, including:
  - Understanding local workforce needs.
  - Being able to detect shifts in local labor market needs.
  - Offering targeted and contract training.

Over 200 publications were reviewed for this report and the 25 articles that contained the most relevant information were selected. Articles were selected based on their relevance to this

project and on how well they illustrated or described some aspect of labor-market responsive behavior. Four methodologies were used in preparing the articles that were selected for this review; statistical analysis, less formal data analysis, literature reviews, and anecdotal evidence, including surveys and interviews of colleges, businesses and other stakeholders.

Among these works there was general consensus as to what constituted a market-responsive community college, as well as which colleges have exemplary market-responsive programs. Though articles addressed different aspects of market-responsiveness, the works complemented each other to provide a comprehensive definition of a market-responsive college, and the attributes that make community colleges highly responsive.

However, the analyses were not sufficiently rigorous for the conclusions to be accepted as definitive. In particular, colleges that lack some of the key attributes cited in the literature, nevertheless, may be highly responsive, and the difference in market-responsiveness between the colleges cited in the literature and other colleges could be small. Thus, the conclusions of this review will be used as hypotheses to be thoroughly tested in the next phase of this initiative.

Specifically, this initiative will assess market-responsiveness and the attributes that make programs highly effective by: (1) collecting and analyzing transcript and wage-record data from selected states to determine which programs most closely addressed local employment needs, and (2) conducting on-site interviews with local stakeholders to learn more about the attributes that make college programs highly market-responsive.

1.0 Introduction

Historically community colleges have pursued multiple missions. These include providing opportunities for students to earn an associate's degree or transfer to four-year colleges, for adult members of the community to obtain continuing education, and for new and incumbent workers to get vocational training in the form of certification and specialized programs. While community colleges continue to serve these three functions, there is increased interest in the role that they can play in workforce and economic development. As local economies and employment needs change, some community colleges appear better able to respond than others. Some even anticipate these changes.

For a college to be labor market responsive, it must actively consider the local and national economic environment and be able to deliver educational and training programs that directly address labor market needs, often in a very short time. Community colleges are well suited to assume this role, as they generally are nimble at curricula development, particularly with respect to non-credit programs. Community college administrators are beginning to transform the processes of delivering educational and training programs, allowing colleges to respond more quickly to labor market changes. Partnerships with employers and community organizations, a mission statement giving a high priority to workforce development, and specialized contract training are all examples of community college responses to workforce development needs. The literature discusses the similarities that exist among those community colleges that have been most successful in responding to the economic and employment needs in their areas.

The literature cited in this review reached a general consensus as to what constituted a market-responsive community college, as well as which colleges have exemplary market-responsive programs. Though articles addressed different aspects of market-responsiveness, the works complemented each other to provide a comprehensive definition of a market-responsive college, and the attributes that make community colleges highly responsive.

However, the analyses were not sufficiently rigorous for the conclusions to be accepted as definitive. In particular, colleges that lack some of the key attributes cited in the literature, nevertheless, may be highly responsive, and the difference in market-responsiveness between the colleges cited in the literature and other colleges could be small. Thus, the conclusions of this review will be used as hypotheses to be thoroughly tested in the next phase of this initiative.

The hypothesis that the characteristics cited in the literature do in fact increase the level of market-responsiveness of a college will be tested through use of transcript and wage record data, and on-site observations of college operations. The objective is to demonstrate to what extent, if any, colleges that have most or all of the documented market-responsive characteristics outperform those that have fewer or none of these elements. Interviews with stakeholders in each community – college presidents, local business leaders, local officials and other organizations, and graduates –will support the statistical analyses by identifying which characteristics they consider key to the college's success.

2.0 Findings from the Literature

A close reading of the literature reveals that over the past decade the training needs of employers have expanded. More dollars are being spent on training every year by high tech and other companies to upgrade the skills of their workforce. Indeed, outsourced training expenditures for U.S. companies nearly doubled between 1994 and 2000, growing from $9.9 billion to $19.3 billion annually (National Alliance of Business, 2001). This demand has created a market for contract training and curriculum development that community colleges are highly qualified to meet. However, competition for this market has expanded with the increase in training budgets, both from private vendors and from within the companies themselves. While many community colleges have been market responsive and thus able to secure such training, others have been less successful.

How community colleges respond to the growing demand for training determines how effective they will be at securing training dollars from employers and students. A particularly relevant example is the development of internal divisions, often called "entrepreneurial" colleges, to address these external training needs. An entrepreneurial college, or what is sometimes referred to as a "shadow" college, is an entity within the college itself that is tasked with developing and delivering programs targeted at a specific population. In an entrepreneurial college, the employer is considered the primary customer rather than the student. These colleges deliver non-traditional training, mostly contract training for employers. (Grubb, 2001). For instance, in the North Carolina Community College System, several programs conducted through entrepreneurial colleges have trained over 25,000 workers. Other functions of these entities include small business development and attracting new employers and industries to their region.

Similarly, some community colleges like Bellevue in Washington State and Montgomery College in Maryland are becoming more aggressive in their approaches to curriculum development and delivery. They have designed a marketing plan targeted at employers with the intent of securing contract-training dollars. In order to do this, these colleges gather detailed information about the needs of the local labor force based on the types of industries that dominate the area, then develop programs that address the skill demands of those industries and present them to local employers.

The characteristics of market responsive community colleges are not identical. They vary according to the local economy, the size of the business community being served, the types of industries that dominate a given area, and the level of demand for highly coveted skill sets. Still, the literature on market responsive community colleges indicates that they share several key elements:

- A leadership committed to the goal of making the college market-responsive,
- Internal response mechanisms;
- Business and other partnerships; and
- Connection to the local economy.

The literature suggests that these are the characteristics that community colleges should be focusing on if they are serious about becoming market responsive. Though each community college has some unique features in its approach to and relationship with its local market, many or all of the underlying characteristics of each element are common across institutions. These elements are usually well integrated in an institution's approach and so there is some overlap in our discussion of their characteristics.

Most of the publications selected for this review highlight key elements of a market responsive community college in detail, describe the changing environments in which community colleges find themselves, and the colleges' efforts to adapt to those environments. Each article selected either described some aspect of market-responsiveness or presented evidence of colleges that had employed market-responsive practices with some degree of documented success. From these publications it is possible to derive the market-responsive elements that populate the list of characteristics. Other publications that were reviewed referred to the evolution of worker training at community colleges, but were more general in their discussion of market responsiveness and did not identify specific characteristics associated with market-responsiveness. Though some of this information was helpful in understanding the circumstances that community colleges face with respect to changing economic and workforce demands, detailed findings of these publications were not reported.

While the identification and classification of these characteristics are based on the supporting literature that describes how a characteristic relates to market responsiveness, in some cases the literature does not discuss the specific elements of market responsiveness. Rather, it describes the overall results that came about because these elements were in place. This is especially true of effective leadership. Few articles address the subject of leadership directly, yet many imply that strong leadership is necessary in order for the programs to exist, expand, and have continued support. By examining how programs evolve and operate, it is possible to gain an understanding of the role of the college leadership in shaping the policies that led to a successful market responsive program.

3.0 Characteristics

This section deals with each of the four market-responsive characteristics identified from the literature. Because the market-responsive initiative is a coordinated effort by the college to respond to training, education and employment needs of the local workforce, many of the goals of these four overarching characteristics overlap. However, each element will be discussed separately in the context of the characteristic it supports.

3.1 Leadership:

According to the literature, for a market responsive community college to be successful, the leadership of the college needs to be committed to the development and growth of a market-responsive approach. The president must have a clear plan for developing and maintaining market-responsive initiatives within the college. Additionally, he or she must have the full support of the board of trustees or the governing body of the college. Presidents need to recognize the role that a community college can play in the local economic area and develop a plan to fill that role. He or she must also have an appreciation of the national labor market and understand how his or her college can address the needs of that market as well. Tony Zeiss, President of Central Piedmont in North Carolina epitomizes this role when he states, "in my view, the community colleges...are the economic engines that will keep our state moving forward." Whether a college president takes an active or supportive role in the development or oversight of the market-responsive programs, their commitment to the idea of market-responsiveness is essential for the success of the initiative. Leadership goals include:

- **Allocating resources to develop and deliver training programs for employers**. This can include both financial resources (revenue from tuition, state and local support, contract training and auxiliary income, as well as state, federal and private grants), materials (such as computers, text books, and other related equipment), personnel (faculty and administrators) and facilities. (Roberts 2002, National Alliance of Business 2001, Dougherty 2000, Brand 1997, Grubb 1997).

- **Improving recruitment and retention of students, particularly in programs key to the local and national economy**. Those colleges that are able to demonstrate that they can successfully recruit and train students in highly sought-after skills will become more attractive as training resources to local businesses. Measuring success in this area is key. Colleges will be able to demonstrate increased efficiency through a reduction in the attrition rate of students in key programs and to identify which programs under-perform and/or may no longer be relevant to the workforce. (Salter 1999, Seppanen 1991).

- **Instituting aggressive outreach programs targeted at bringing in contract training from local businesses**. As the demand for worker training expands, college presidents need to pursue training opportunities among local employers, either personally or through an internal division dedicated to pursuing and securing training. In order to be successful, the leadership

must have an understanding of the evolving needs of employers to be able to anticipate and prepare for upcoming changes in workforce demand. (Drury 2000, Gruber 2000, Ohio Board of Regents 2000, Kisner 1997, Grubb et al 1997).

- **Encouraging the expansion of curricula to include more employer-focused programs**. The leadership must move the college towards a more demand-oriented strategy of program development, and have programs in place to meet present demands and rapidly respond to future demands when they arise. This often involves hiring faculty willing to develop curriculum in collaboration with local employers, or bringing in local experts as adjunct faculty to teach. (Lebowitz et al 2001, Carnevale 2000, Bailey and Averianova 1998).

- **Remaining current on effective practices of other market-responsive community colleges**. Gleaning information about what makes other community colleges successful in serving their local economic areas, and then integrating those practices, or portions of them that would apply to the local economic area, are a key part of the role of the college leadership. Sharing and integrating effective practices enables colleges across the country to upgrade their programs through proven methods. It also enables colleges in urban or rural areas to learn what programs and relationships succeeded around the country in their respective economic environments, since practices that succeed in a heavily populated area may not be as successful in rural areas with a much less diverse local economy. (Salter 1999).

Montgomery College – Montgomery County, MD

The president of Montgomery College is credited with the vision for implementing the "institute model" on the college's campus. One such example is The Homer S. Gudelsky Institute for Technical Education (GITE) which opened in the fall 1992. GITE is a public-private joint venture providing state-of-the-art technical education and training opportunities for the community.

The programs are a direct result of ongoing partnerships with local business and industry to identify and respond to the technical training needs of the community. The college president set the necessary tone for outreach and collaboration with local business. The Gudelsky Institute offers instructional programs in four primary areas using instructional delivery options promoted by the college's executive administrators, including: Customized Contract Training; On-Site Training; Distance Education; Certificate Programs; Apprenticeship-Related Instruction; and Credit and Continuing Courses.

Source: Dr. Patrick Valentine, Dean, Economic and Workforce Development, Montgomery College

- **Identifying market responsiveness as part of the college's mission**. By expanding the college's mission the leadership is committing itself to providing support to the local and national workforce. It also signals its willingness to commit resources to develop and deliver training to local employers and employees. For example, vision statements like those of Central Piedmont Community College which reads: "CPCC intends to become the national leader in workforce development," stand in contrast to more traditional statements of mission focused on quality of instruction and student-centered services. (Warford & Flynn 2002, Carnevale 2000, Bailey and Averianova 1998).

3.2 Internal Response Mechanisms:

Another key factor highlighted in the literature is the need for community colleges to have internal response mechanisms that develop and deliver training based on the needs of the local economy. Since jobs and the skills needed to perform them change quickly, these response mechanisms must be able to evolve rapidly to accommodate the demands generated by such changes. To do this effectively, community colleges need to be connected to the local labor market; to know what sorts of jobs employers need and what skills they look to upgrade. Often training divisions operate independently of the college's other departments or divisions, and utilize both internal and external guidance in determining how best to develop and/or update curriculum. Characteristics of internal response mechanisms include:

- **Responding rapidly to changes in local economic conditions and training needs.** Because jobs are ever evolving, training providers need to be able to quickly develop and deliver training that addresses the needs of employers for both new and existing workers. In addition, economic growth is uneven, and can be unpredictable. Employers often need a quick infusion of workers trained in certain skills or possessing a particular combination of knowledge and skills. What's more, economic growth often occurs very rapidly, putting extreme pressure on local educational institutions to train sufficient numbers of qualified applicants fast enough to satisfy demand. Many community colleges have developed the capacity to modify or create curriculum in line with, or in some cases, in preparation for, employer needs. This is possible because the non-credit programs do not always fall under the regular for-credit governance of the college and are therefore not subject to the traditional curriculum approval process, which can take months or years to approve a new program. And while non-credit courses provide the most rapid response, community colleges taking the longer view will also begin to expand and evolve for-credit courses in key areas, focusing on longer-term economic trends. (Carnevale & Desroches 2001, Drury 2001, Gruber 2000, Thompson 1997, Payne & Williams-Foster 1997).

Portland Community College – Portland, OR

Portland Community College has partnered with Mount Hood Community College and the local Workforce Investment Board to provide short-term training to dislocated workers with limited English proficiency and low basic skills. Existing curricula at the colleges were reorganized into shorter modules in the fields of Accounting/Bookkeeping, Criminal Justice, Metals Manufacturing, and Phlebotomy. After full-time training for one term, students gain preliminary certificates and can enter jobs in those fields. As these short-term modules are part of existing college programs, students are eligible for federal financial aid and WIA funding.

Source: Julian L. Alssid, et al. Building a Career Pathways System: Promising Practices in Community-College Centered Workforce Development. Workforce Strategy Center, pg. 17, August 2002.

- **Being adept at curricula development and modification.** Community colleges are generally more nimble at creating and modifying curricula to address employer needs than are four-year institutions. Those colleges that develop courses quickly are better able to respond to the needs of local workers and employers. This is particularly true of areas

dominated by highly fluid and changeable industries, such as health care and high tech. Lengthy delays in developing or modifying curricula puts the college at risk of lagging behind the local workforce needs and rendering themselves ineffective as a training resource. In addition, it allows the colleges to cycle out of programs that have a diminished significance in the workforce and to reallocate resources into more immediate needs. (National Alliance of Business 2001, Ohio Board of Regents 2000, Dougherty & Bakia 2000, Gruber 2000).

- **Having an internal division dedicated to responding to training needs of local economy and employers.** Separate divisions, or entrepreneurial colleges, within the community college tasked with developing and delivering training to meet local employment needs allow a college to become market responsive without undergoing fundamental changes in its traditional structure. Creating such a division, whether as part of the existing college structure or as a stand-alone entity, increases the visibility of the college as a training provider as well as enables the college to become more nimble in developing and delivering training to employers and others seeking to improve job skills. These divisions may look somewhat different from one institution to another. Examples include Springfield's Division of Economic and Business Development or Montgomery College's Workforce Development and Continuing Education Division. Some, like Mission College, created a Workforce and Economic Development Unit (see box), while others, such as Black Hawk College, have a Business and Industry Center that encompasses training, small business development, and some continuing education. In many cases these divisions are self-supporting and derive all operating revenue from income received through the delivery of training programs. Such programs need to become and remain closely connected and responsive to their clients' needs in order to remain in operation. They also are, in many cases, able to operate outside of the college's normal channels for creating new curricula, enabling faster program development. These divisions often collaborate with employers and vendors to create programs and rely heavily on adjunct faculty to help develop and deliver the curricula. (Drury 2001, Libowitz et al 2001, Grubb et al 1997).

Mission College – Santa Clara, CA

Mission College formed a Workforce and Economic Development Unit overseen by the Dean of Workforce and Economic Development. The unit includes contract and corporate education, a regional business assistance center, welfare-to-work (CalWorks), job placement, work experience, and industry internships for both faculty and students. Special regional programs that are funded by competitive economic development state grants and privately funded programs for consortium development and the delivery of college credit based career pathway training at community-based organizations, adult education, and social service agencies also are the responsibility of the Dean of Workforce and Economic Development. Managers of programs that fall under the Workforce and Economic Development umbrella can leverage their resources with the resources of other programs within the unit to ensure a rapid response to changing workforce and economic development needs. This structure allows Mission College to be proactive, creative and diverse in the projects it takes on.

Source: Dr. Ingrid Thompson, Program Manager, Corporate Education and Training, Mission College

- **Integrating non-credit elements into for-credit programs.** Much of the curricula developed for non-credit courses can also benefit students in for-credit programs as well. Because non-credit programs directly address the needs of employers and students seeking employment, many of the elements developed for these courses have relevance for students seeking degrees or certificates in similar fields. Integrating these elements enables a college to update for-credit programs to more closely match what the local labor market requires. (Cantor 2002, Lebowitz et al 2001, Drury 2001, Brewer & Gray 1997).

Lane Community College – Lane County, OR

Lane Community College's Business Development Center works with local employers to create training partnerships. For example, the college collaborated with two high tech companies to design a fast track program to provide people with the core skills needed to be employed in the high tech manufacturing industry. For years, the college has been partnering with employers to develop specialized curricula and customized training that can be delivered at either the college or the work site. Lane has also worked closely with a consortium of the county's most progressive employers on improving leadership, communications, and teamwork skills of the local workforce through a series of public workshops, seminars, and institutes.

Sources: Larry J. Warford. The American Community College: Nexus for Workforce Development, edited by Robert H. McCabe. League for Innovation in the Community College, pps. 61 - 63. (Chapter 11) February 1997.

- **Using distance learning to deliver for-credit and non-credit programs.** Providing employees with the option of receiving instruction at work or at home reduces the amount of down time needed for training. Similarly, distance learning provides an attractive alternative to employees who lack sufficient time to travel to classes after work or on weekends. In addition, distance learning increases the capacity of the college to expand for-credit and non-credit course offerings beyond the immediate economic area. (National Alliance of Business 2001, Gruber 2000, Ohio Board of Regents 2000).

3.3 Business Partnerships and other Collaborations:

Most community colleges have at least a general understanding of the needs of the local workforce. In areas where economic growth has been robust, demand for adequately prepared workers has outstripped supply. Community colleges and other education institutions have had to adjust their course offerings to the increased need for skilled workers. According to the literature, selecting the right combination of programs to offer, and determining the correct length of each program with respect to the types of jobs available requires close communication between the educational institutions that serve the region and the businesses that hire their graduates. To succeed in providing workers with the correct mix of skills, schools in general, and community colleges in particular, need to foster institutional-business relationships that include:

- **Collaborating with local businesses on curricula development.** Developing training programs jointly between the community college and the customer, primarily the business or agency that is contracting the training, assures that the program will match the employment needs of the client. Collaboration may include joint creation of the curriculum or modification of an existing program, developing or modifying existing materials, and assigning personnel to the college for the purpose of developing and teaching the program. The Reynolds and Reynolds Company articulated its need for employees to develop the ability to work as team members in a team culture and learn problem-solving approaches to Sinclair Community College, who has since delivered training in these areas to over 2,000 employees. (Cantor 2002, Roberts 2002, Ohio Board of Regents 2000, Salter 1999, Kisner et al 1997, Payne & Williams-Foster 1997).

- **Seeking employer input on curriculum.** In instances where a program may be designed for an industry rather than an individual client, or where the client has insufficient resources to collaborate on the development of the curriculum, community colleges seek employer feedback as to the accuracy and benefit of the program. Additionally, employers may be able to provide materials and information critical to the development of the training program, as well as staff for developmental assistance. It also provides employers an opportunity to begin developing a potential pool of employees prior to graduation, reducing the amount of introductory training necessary for newly hired employees and gives employers some control over what curriculum is taught. (National Alliance of Business 2001, Gruber 2000, Payne & Williams-Foster 1997).

- **Recruiting adjunct faculty from among experts in local businesses to teach non-credit and for-credit courses.** Incorporating the knowledge of professionals from the local economy to teach either a for-credit or non-credit course can provide insight and a real-world perspective to the curriculum. It allows students to learn current information and practices of their prospective employers or of the industry for which they plan to work. (Gruber 2000, Schwager & Lee 2000).

College of the Mainland – Texas City, TX

In the early 1990s, petrochemical and refining companies in several Gulf Coast states became concerned that process technicians did not have the knowledge and skills needed to perform their jobs successfully. In collaboration with their local community colleges, individual companies began developing programs for training process technicians. Because each of these partnerships was acting independently, there was little consistency in the content and standards being used across the different programs. Some programs were clearly stronger than others. Industry partners proposed that all of these smaller groups work together on creating a single standards-based curriculum that could be used across the region. The College of the Mainland was instrumental in creating the Gulf Coast Process Technology Alliance, a partnership among key players. With a grant from the National Science Foundation, the Alliance, the College of the Mainland, and other business, education, and community partners developed an associate's degree program for process technicians.

Source: Academy for Educational Development, unpublished profile prepared for the Fund for the Improvement of Post Secondary Education, (FIPSE) U.S. Department of Education, Washington, DC, 2002.

- **Partnering with other local educational institutions to provide comprehensive training opportunities to employers.** Some industries dominate regions that extend beyond the immediate economic area serviced by a community college. In such cases, community colleges may partner with each other to expand their training delivery area to better serve the companies that populate the industry. By collaborating with other educational institutions in the development and delivery of training programs, community colleges are able to maximize their resources while expanding their ability to deliver training. Partnerships may include jointly developing and delivering programs, adopting parallel curriculum, creating an independent training entity responsible for developing and coordinating non-credit and some for-credit training across all partners. Examples of regions where such programs have been effective in providing regional training coverage are in California's Silicon Valley and in and around North Carolina's Research Triangle. (Salter 1999).

- **Developing and delivering appropriate training programs through internal collaboration between departments.** In order to meet employers' needs, community colleges may combine elements of for-credit and non-credit programs to develop a client-specific training course. This is particularly well suited to industries that require credentials or certificates of completion that carry academic credits, but do not desire a full one-year or two-year for-credit program. Such collaborative endeavors expand the capabilities of the community college to deliver for-credit courses without expanding their overall for-credit programs. (Drury 2001, Pindar 1999, Seppanen 1991).

3.4 Connection to the Local Economy:

Finally, the literature stresses that first-hand knowledge of the needs of the local economy is essential for a community college to be able to plan and execute effective training programs. Moreover, developing close ties to area businesses, workforce investment boards, chambers of commerce and other organizations increases the likelihood that community colleges will pursue a collaborative approach when designing employer-targeted curriculum. Characteristics include:

- **Being up to date on local employer skill demands.** Technology has accelerated the rate at which skills become obsolete. Additionally, jobs and job descriptions are no longer static, meaning workers need to have a strong background in more than one discipline to be successful. A community college that is plugged into these changes and is able to deliver training appropriate for the local workforce is a valuable asset to businesses in the region. However, being

San Diego Community College District – San Diego, CA

The San Diego Community College District conducted a comprehensive survey of 1,700 manufacturing companies. Findings from this survey along with information from the State of California Employment Development Department, the Economic Research Bureau of the Greater San Diego Chamber of Commerce, and the U.S. Census Bureau were used to make decisions regarding programs. In addition, in order to stay abreast of changing workplace needs, the system reviews and tracks the kinds of customized training that it is asked to create for employers and uses this information to make curricular changes to other courses.

Source: Laurel McFarland, editor. New Visions: Education and Training for an Innovative Workforce. Chapter 5, NCRVE, August 1997.

current often means anticipating changes in the local economy based on national and regional trends, and acting on those trends to have the proper programs in place when employers need them. For example, after the attacks of 9/11, the leadership at Central Piedmont Community College anticipated a downturn in the airline industry and began to develop programs to train laid-off airline workers for jobs connected to the Department of Homeland Security (Cantor 2002, National Alliance of Business 2001).

- **Being able to detect sudden shifts in local training needs.** How responsive a community college is to local employers and students depends on how quickly it is able to detect changes in employers' training needs and deliver appropriate programs. It is important therefore that those within the community colleges that run the training divisions have a strong working relationship with groups in the community that they are tasked to serve. For example, Milwaukee Area Technical College partnered with the Northeast Milwaukee Industrial Development Corporation in opening neighborhood learning centers and Pima Community College collaborated with the Pima County WIB to create a High-Tech High-Wage Program. In order to constantly develop or revise programs and courses based on the needs of the local workforce, there must be an ongoing working relationship between those in the college who actually put the programs together and those who will ultimately benefit from that training. (Lebowitz et al 2001, Warford & Flynn 2001, Gruber 2000).

Cuyahoga Community College – Cleveland, OH

Cuyahoga Community College partners with the Westside Industrial Retention and Expansion Network (WIRE-Net), a nonprofit organization that supports the economic and employment interests of firms and residents in an industrial part of Cleveland. Cuyahoga Community College and WIRE-Net are providing low-income and inner-city minority residents with the education and training they need to connect to higher-skilled, higher-wage jobs in the precision machining industry. This not only improves the employment and earning prospects of the individuals who receive the training, it also increases the supply of skilled manufacturing workers available to Cleveland employers.

Source: Brandon Roberts, The Best of Both. *Working Ventures*. Public/Private Ventures. New York. NY. 2002.

- **Offering targeted and contract training.** Almost every community college offers some form of targeted or contract training. Contracts can be for short-term remedial or ESL classes, or for more sophisticated high tech or managerial training. Those colleges that are market responsive will likely have both a high proportion of contract training enrollments relative to all non-credit and for-credit enrollments, and that training will be in areas that address the most critical needs of local employers. These colleges will often have a growing number of training courses with growing enrollments. (Ohio Board of Regents 2000, Dougherty & Bakia 2000).

4.0 Conclusion

This review suggests that economic growth and labor market change puts pressure on employers to hire adequately prepared workers. As the economy and employment needs change rapidly, being labor market responsive requires a proactive approach on the part of community colleges. Administrators must anticipate change, and have structures, processes, partnerships, and leadership to respond to the unpredictable. The most responsive colleges will not only continue to respond to change but will develop new strategies to do so.

There is general agreement throughout the literature that market-responsive community colleges possess certain elements that facilitate their efforts to address local workforce needs. These include, among other things, developing an internal division to address non-credit curriculum, interacting with and seeking input from local employers regarding curriculum development, drawing on the expertise of local professionals and rapidly responding to training needs. It is clear that these elements are not unique to one aspect of market responsiveness but are an integral part of many different aspects of being labor-market responsive. While different authors sometimes emphasize the importance of different specific elements, the picture that emerges is that four general characteristics dominate the discussion: leadership, having an internal response mechanism, collaborating with businesses and other stakeholders, and connecting to local economy.

Examples of community colleges that have adopted some or all of these principals suggest that they have been successful in addressing the needs of their immediate economic area. However, the literature does not provide statistical evidence that these characteristics or actions do affect outcomes, nor does it provide examples of colleges that failed to adopt some or all of these characteristics and thus struggled to become market-responsive. In order to confirm the theories put forth in the literature, transcript and wage record data will be used to test the extent to which the four dominant characteristics and their underlying elements do in fact affect a community college's ability to respond effectively to local employment demands.

Appendix: Abstracts of Selected Publications

A thorough search of the available literature concerning the growth and evolution of community colleges was conducted for this review. Publications were selected based on the expertise of the author, the rigor of the study, and the article's relevance to this project. Well over a thousand citations were obtained, and more than 200 of the most promising publications reviewed. Of this group, the following 25 were found to contain the most relevant information for this review. Each article addresses a particular aspect of market-responsiveness or profiles a college or colleges that have implemented market-responsive initiatives. Other literature was informative in providing background information and historical context, including statutory and legislative issues that may affect a college's ability to adopt some market-responsive practices. However, if the author did not address the issue of market-responsiveness directly the article was not cited in this review.

Four basic methodologies were used in preparing the reports and articles that were selected for this review; statistical analysis, less formal data analysis, literature reviews, and anecdotal evidence, including surveys and interviews of community colleges presidents and key personnel, businesses and other stakeholders. Of the 25 articles, 12 were primarily based on reviewing existing literature, 13 were based on original data collection, either surveys or interviews, but only 8 articles used data obtained from more than 5 schools. Several of the articles were based on case studies of a few colleges, and one discussed findings from a survey of local businesses.

Among the works reviewed there was general consensus as to what constituted a market-responsive community college, as well as which colleges exemplify this initiative. Indeed, several colleges are mentioned throughout the literature, as are several best practices employed by colleges and districts to address the issue of market-responsiveness. Though articles addressed different aspects of market-responsiveness, the works themselves complemented each other to provide a comprehensive definition of a market-responsive college.

1. Bailey, Thomas R. and Averianova, Irena E. Multiple Missions of Community Colleges: Conflicting or Complementary? Community College Research Center, Teachers College, Columbia University, New York, NY, October 1998.

Abstract: This report discusses new directions community colleges will need to follow to modify their traditional roles. Section highlights contract training and economic development activities of community colleges, pointing to the "new economic role" of community colleges and the new functions of entrepreneurial community colleges. Issues include contract revenue, integration of contract training and vocational training, and the potential effect of the new economic role of the community college on its traditional mission. This report was developed from analyses of existing literature and preliminary findings from a survey of 10 community colleges and five 4-year colleges.

2. Brand, Betsy. Community Colleges and Economic Development. The Center for Occupational Research and Development, Waco, TX, April 1997.

Abstract: This piece uses surveys of 18 community college presidents and other college officials to profile one mechanism being employed by community colleges to provide targeted training, Advanced Technology Centers (ATCs). Though the report mainly discusses these programs, it does provide insight into the leadership role of community college presidents in developing and supporting market-responsive programs. The report notes that college presidents had a very personal commitment to involving his or her college in economic development, and they worked hard to ensure that their staffs and their communities understood that commitment." Presidents also viewed the success of these programs as "a major source of success of their colleges." The report goes on to say that, "over and over, the college presidents stressed how important it is for a college to have economic development as a clearly stated and prominent part of its mission." It helps to have the Board of Trustees on board and strongly supporting the effort to have the community college serve the community's workforce and economic development needs.

3. Brewer, Dominic and Gray, Maryann. Connecting Colleges and Community in the New Economy. The National Center for Research in Vocational Education, Berkeley, CA, and The U.S. Department of Education, Washington, DC, 1997.

Abstract: This work provides an overview of linkages between community-college faculty and labor markets, although it acknowledges that linkages also occur between labor markets and the institutions themselves and with departments and programs. Previous work has argued that schools are usually less likely to offer courses based on changing demands from the labor market and more likely to offer courses based on interest and knowledge of faculty. A major source of information about the business world's needs, the reading claims, comes from business representatives who sit on the college's advisory boards.

The authors categorize faculty activities into four domains: *curriculum and pedagogy, career assistance, institutional service,* and *professional and community service activities.* They then outline two individual and institutional characteristics that underlie faculty-labor market linkages. The first is whether the faculty member is full or part time and in what field the faculty member teaches. Second, the extent to which the faculty member is linked to and influenced by the college is important. This study is based on results from a survey of 1,725 community college faculty at over 100 institutions nationwide.

4. Cantor, Jeffrey A. Skills Certification and Workforce Development: Partnering with Industry and Ourselves. *Leadership Abstract*, World Wide Web edition, The League for Innovation, January 2002.

> **Abstract:** This article discusses certification programs developed between community colleges and industry as a way to, among other things, "maintain program relevance." The article says that "industry worker certification ... serves as a resource and benchmark for state-of-the-art curriculum and program development, a tool for marketing program effectiveness and portability to students as well as employers, and a competency-based bridge between noncredit continuing education and degree programs." The article also points out the complimentary nature of skill certification and other college programs and profiles programs at Norwalk Community College as an example of an effective program. This study draws on existing data and publications.

5. Carnevale, Anthony P. and Desroches, Donna M. Help Wanted... Credentials Required. Community Colleges in the Knowledge Economy. Educational Testing Services, Princeton, NJ, 2001.

> **Abstract:** This report mainly examines the expanding role of community colleges in serving as a resource for providing credentialing. Included in the report is a discussion on the relationship between employers and community colleges and the need for a continuous cycle of education and training, especially in the face of increasing skill demands. In addition, aligning curricula to local business and economic needs, collaborating with other training providers, IT vendors, and local industries, and some challenges to institutional change that move colleges more towards market responsiveness, are discussed. This report is a synthesis of existing literature and data.

6. Carnevale, Anthony P. Community Colleges and Career Qualifications. New Expeditions: Charting the Second Century of Community Colleges. Issues Paper No. 11. American Association of Community Colleges, Washington, DC; Association of Community College Trustees, Annandale, VA, 2000.

> **Abstract:** Community colleges have new challenges in responding to new economic demands. First, they will need to educate and train the workforce in response to employers' needs in order to stay competitive. Second, community colleges will need to meet these same new requirements themselves. Because of their unique flexibility and responsiveness, community colleges are well positioned to meet these new standards. The new mission of community colleges includes workforce preparation and training. In addition, colleges serve as a low-cost alternative to more costly training methods used by businesses to train workers, and have demonstrated an ability to address both job-specific needs of employers and career needs of students. The article also notes that collaboration between employers and community colleges has benefits that extend to all parties involved. This is an analysis of existing literature and data.

7. Dougherty, Kevin J. and Bakia, Marianne F. Community Colleges and Contract Training: Content, Origins, and Impact. Teachers College, Columbia University, *Teachers College Record*, V.102, No.1, pp. 197-243: New York, NY, 2000.

> **Abstract:** Most community colleges now provide contract training for employers. This work explains community colleges' involvement in this training, explains how this role arose, and describes its impact on the colleges. Community colleges are appealing to employers because of their low cost, greater responsiveness than four-year colleges, and greater reliability and academic focus than vocational schools. Community colleges also market themselves to local employers as viable training resources. The authors used existing literature to support findings of a survey of at least four community colleges conducted in each of five states: New York, Florida, Texas, Michigan and California

8. Dougherty, Kevin, J., and Bakia, Marianne, F. The New Economic Development Role of the Community College. Community College Research Center, Columbia University, New York, NY, 1999.

> **Abstract:** The report studies how community colleges have broadened their role in workforce and economic development over the past 20 years. The study examines contract training, small business development and incubation, and local economic planning. The report draws extensively from existing literature and data.

9. Drury, Richard L. The Entrepreneurial Community College: Bringing Workforce, Economic and Community Development to Virginia Communities. *Inquiry*, Spring 2001. Virginia Community College System.

> **Abstract:** Some community colleges in Virginia are developing internal entities to address the training needs of their local workforce. These "entrepreneurial" colleges within the existing community colleges are dedicated to non-traditional activities designed to be market-driven and customer oriented, with the employer, not the student, identified as the customer. These "colleges" create demand for their services by offering non-traditional, non-credit courses and by collaborating with local businesses. Courses are developed and delivered through partnerships with community colleges and local businesses. This report draws on existing literature.

10. Grubb, W. N., et al. Workforce, Economic, and Community Development; The Changing Landscape of the Entrepreneurial Community College. National Center for Research in Vocational Education, University of California at Berkeley, Berkeley, CA, 1997.

> **Abstract:** The work uses existing literature to examine the role of community colleges in workforce development, economic development, and community development. The research argues that some community colleges engage in these activities because they have been influenced by: 1) an emphasis on an occupational (not academic) mission, 2) aggressive administrators, 3) faculty that are connected to employers, 4) stable support

for these activities, 5) the effects of faculty groups on the rigidity of the curriculum, and 6) demographics.

The degree to which community colleges affect workforce, economic, and community development is also affected by state funding, local economic conditions, district policies concerning community colleges, developments within local firms, and pressure for economic and community development.

11. Gruber, David. We're Education... You're Semiconductors. *Working Ventures*, Public/Private Ventures, New York, NY, 2000.

Abstract: This report profiles four business-community college partnership and notes that among community colleges, corporate training has not been universally accepted as part of the college mission, but that some have developed effective training partnerships with businesses. The report cites training partnerships between several major corporations and local community colleges: Sequins International and LaGuardia Community College in New York, Daimler-Chrysler and Macomb Community College in Michigan, Intel and Mission College in California, and Boeing and Shoreline Community College in Washington. Reasons for choosing community colleges for training include cost, faculty and capacity, flexibility in delivering training, prior experience, academic credit, and other services. The report also surveys key personnel at the colleges and details specific roles each partner plays in developing a training program.

12. Kisner, Mary J., Mazza, Maralyn J., and Liggit, David R. Building Partnerships. *New Directions for Community Colleges* Vol. 25, No.1 Spring 1997.

Abstract: This article draws on existing literature to describe how the role of partnerships has changed from that of an advisory relationship on the part of the employer to one that is more collaborative with respect to curriculum development. The article describes specific partnership building steps and discusses the importance of selecting the right partner from both the perspectives of the employer and the community college. Keys to success include setting clearly defined, realistic goals and continued evaluation of the partnership's success.

13. Liebowitz, Marty, Haynes, Leslie and Milley, Jane. Driving Change in Community Colleges, Volume 1: Building Systems for Advancement to Self Sufficiency, and Volume 2: An Analysis of Changes in Two Community Colleges. Jobs for the Future, Boston, MA, July 2001.

Abstract: Both volumes primarily address how community colleges can better serve low-income youth and adults but identify exemplary practices that colleges can use to become more market responsive. Volume 1 notes that "policy, partnership and leadership are key levers that external players and internal community college leadership can use to drive change," and that "the likelihood of success is greatest when external

stakeholders and internal leadership work together toward a common vision." The report also emphasizes the importance of partnering with employers and business organizations to align curriculum towards labor market skills and describes common barriers to chance and some promising practices to overcome them. Practices include a clear focus on economic development, partnerships with local business leaders, creating internal "shadow" colleges to address non-credit training needs, streamlined decision-making, closer ties between for-credit and non-credit divisions, and tapping into best practices from other community colleges. The report also includes a list of indicators to determine how prepared a college is to address internal change. Information for this report was derived from extensive interviews with key personnel at two community colleges, Central Piedmont Community College in North Carolina and Portland Community College in Oregon.

14. National Alliance of Business, Inc. The Future of Worker Training: Business/Community College Partnerships. *Workforce Economics*, Vol. 7, No. 1, pp. 3-6: Washington, DC, Spring 2001.

Abstract: Community colleges are more frequently linking with businesses to provide results-oriented programs. Although cost is the major factor influencing a business' decision whether or not to link with a community college for training, other factors come into play. These factors include: expertise of faculty and existence of programs in the area of need, the willingness of the college to modify its curriculum to meet the employer's needs, ability and desire to train workers on and off campus, flexibility of that training around working hours, and access to additional funding. This report draws on existing literature.

15. Ohio Board of Regents. Information Technology Skills: Ohio Employers' Labor Demand: Implications for EnterpriseOhio Network Campus-Wide Leadership. Enterprise Ohio Network Professional Development Resource Center, Kirtland, OH, January 2001.

Abstract: This document is intended to inform and advise the development and operation of campuswide information technology (IT) education and training programs at colleges belonging to the EnterpriseOhio Network (EON). Each EnterpriseOhio Network two-year campus seeks to provide IT education and training programs that are increasingly responsive to the needs of its employer- and employee-customers and the community at large. Topics discussed include the demand for IT workers in Ohio, IT skill requirements, trend analysis on the supply of IT workers, service delivery opportunities for EON based on employer demand, and EON's role as a primary resource for Ohio residents. In addition to a literature review, the Ohio Board of Regents conducted a state-wide environmental scan and held a dozen industry-targeted focus group discussions with local employers for this report.

16. Ohio Board of Regents. Business Performance Improvement: Examples of Successful Partnerships. Columbus, OH, 2000.

Abstract: This article describes the partnership between businesses in Ohio and EnterpriseOne, a local consortium of community colleges. Activities performed by community colleges include:

- Targeted training to meet local industry needs, such as ISO 9000 training.
- Contract curriculum development.
- On-site technical training.
- Customized curriculum development for specific employer needs.
- Developing training modules to help with employee growth.
- Training developed for targeted workforce needs of local communities.
- Developing and delivering degree programs on-site to employers.

The Ohio Board of Regents surveyed 36 community colleges in the state for examples of partnerships.

17. Payne, John H. and Williams-Foster, Cathy. Industry and Education: A Winning Combination. *Performance Improvement*, January 1997.

Abstract: This article details the development of a two-year, for-credit program. The program was developed through collaboration between a consortium of petrochemical companies in the Houston area and Mainland Community College, including closely mapping the curriculum to the specific needs of the employers and collaborating with businesses to develop course content.

18. Pindar, SaraLee. Community Colleges and the Business of Workforce Development. New Jersey Council of County Colleges, Trenton, NJ, 1999.

Abstract: This report highlights New Jersey's community colleges and their efforts to respond to market and consumer needs. New Jersey's community colleges have been successful as workforce development businesses. Since one-third of the average New Jersey community college operating budget is paid by students and clients, the colleges must approach their business customer needs with quality programs and services. Topics covered include responding to market needs, retaining and attracting jobs, strategic alliances, and supporting the middle class. The author uses existing literature and data to augment findings from interviews of up to 19 community colleges in the state.

19. Roberts, Brandon. The Best of Both. *Working Ventures*, Public Private Ventures, New York, NY, 2002.

Abstract: This reading outlines how community colleges and community nonprofits can work together to help local labor markets. The article concluded that the key lessons for developing a partnership include securing the support of the top leadership and other allies, bringing resources and money to the table, looking for resources everywhere, and

having a clear division of labor. Similarly the report notes that to operate a successful partnership, partners must communicate well, have flexible operations, monitor and document results, and work to achieve systemic change. Overcoming barriers that impede partnerships requires college leadership that values career training, an entrepreneurial environment that aggressively solicits outside funds to support nontraditional activities, and a management culture that promotes and facilitates change. The report notes that community colleges provide small and medium-sized companies with a cost-effective alternative for employee training. The report draws on existing literature.

20. Salter, Linda Graef. Down in the Valley. *Community College Journal,* Oct-Nov 1999.

Abstract: This article highlights a partnership between a Silicon Valley-based community college and local employers to provide a training pipeline. It describes some specific steps taken by the college to provide the best possible training opportunities, including partnering with high schools, developing a consortium of local community colleges to develop and deliver training, delivering for-credit programs to employees on-site, staying connected to national trends, and seeking updates on best practices in training development and delivery.

21. Schwager, Mahna and Lee, June. Industry Review and Validation of Model Curriculum for Programmer/Analyst, Network Administration, and Technical Support. California Community Colleges, Office of the Chancellor. WestEd, San Francisco, CA, May 2000.

Abstract: This report provided an example of industry involvement in the development of a community college-based training program. Industry representatives reviewed the curricula for computer programmer/analyst, network administrator, and technical support courses at ten community colleges in California. IT industry representatives and community college faculty participated in focus groups in this study. Participants offered specific suggestions targeted to each course and noted the competencies needed for the three occupations and the usefulness of industry certification and community college certificates and degrees. They also considered future trends, including evolving technologies, new business models, new skills and types of workers, and new training models.

22. Seppanen, Loretta. Assessment of Meeting Employer Needs and the Labor Market Experience of Job Upgrading and Retraining Students in Washington Community Colleges. A Baseline Report. Washington State Board of Community College Education, Olympia, WA, June 1991.

Abstract: This report describes four different studies of Washington State community colleges' shortcomings and strengths in an effort to provide upgrading and retraining for employed workers. The report draws on findings from a 1990 survey of 1,151 employed students attending 8 community colleges in the state. Key areas of focus are access,

funding, removal of barriers, and enhancing success/cooperation. According to findings: one-third of community college students was there for retraining/upgrading. Those most likely to be served were women, people with a high school diploma or some college, younger workers, and those in health, managerial, and administrative positions. In addition, the state paid for most of the retraining (only 20% was paid entirely by the employer through contract training). More enrollees were enrolled for upgrading/retraining than for entry-level job preparation, and 64 percent expected to need continual training. Overall, students were satisfied with the availability of classes, especially night courses, while employers were satisfied with the cost effectiveness of community colleges.

23. Thompson, Ingrid. Silicon and Ivy: Enhancing California's Workforce and Educational Goals through the Corporate College Model. Materials from a presentation to California Community College Foundation, San Jose, California, April 21-22, 1997.

Abstract: This article looks at corporate colleges within community colleges. The overarching argument is that "community colleges should consider establishing corporate colleges since they can generally accomplish the task [of training] more cost-effectively than corporations and have experience creating learning environments for adults." The report profiles California's West Valley Mission Community College, which has established a corporate college program that both provides support services at company sites and meets the academic and financial needs of students. In addition, four models of corporate college structure are noted:

- Accelerated Associate's program (an established schedule of classes at company sites).
- Blended Associates degree (80% of the courses at company sites and the other 20% on campus).
- Consortia model (allowing students from various nonprofits and smaller companies to participate).
- General education courses offered at a client site, with class schedules designed to meet the client's needs.

This report also draws on existing literature to help describe findings from the profile.

24. Warford, Larry J. and Flynn, William J. New Game, New Rules: The Workforce Development Challenge. *Leadership Abstracts*, World Wide Web edition, The League for Innovation, April 2000.

Abstract: Community colleges face new responsibilities in preparing workers for jobs. This article describes a strategic approach to expanding the mission of a community college to address workforce needs. Colleges must have a strategic plan for workforce development, analyze and identify workforce segments, and match workforce segments with internal divisions designed to address specific needs. Additionally, the article provides three questions for community college leaders that are designed to help them

determine how prepared their college is to service these segments. The authors draws on their own expertise and backgrounds for this report.

25. Whiteman, Jo Ann M. Business Curriculum Development in the Community College. University of Central Florida, 2001.

Abstract: Community college curriculum may be generally classified as career, developmental, community, and collegiate studies. This report examines the business curriculum offered in community colleges. The author notes that in the business curriculum, three developmental curriculum models are used to analyze job requirements in a specific work context so educational programs can be developed to prepare future employees: the skills component model, the professional model, and the general component model. All three of these models are defined and explored. The author draws on existing literature for this report.

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